

Title (en)

SECONDARY BATTERY AND SECONDARY BATTERY ELECTROLYTE USED THEREIN

Title (de)

SEKUNDÄRBATTERIE UND DARIN VERWENDETES SEKUNDÄRBATTERIE-ELEKTROLYT

Title (fr)

BATTERIE SECONDAIRE ET ÉLECTROLYTE DE BATTERIE SECONDAIRE UTILISÉE DANS LADITE BATTERIE

Publication

**EP 2613396 B1 20170927 (EN)**

Application

**EP 11821568 A 20110818**

Priority

- JP 2010196617 A 20100902
- JP 2011068681 W 20110818

Abstract (en)

[origin: EP2613396A1] Provided is a lithium ion secondary battery in which a high-energy type negative electrode is used, the lithium ion secondary battery having high capacity and excellent thermal stability. A secondary battery according to the present embodiment comprises: an electrode element having a positive electrode and a negative electrode opposed each other; an electrolyte; and an outer casing containing the electrode element and the electrolyte, wherein the negative electrode comprises a negative electrode active material, which includes at least one of a metal (a) capable of alloying with lithium and a metal oxide (b) capable of occluding and releasing lithium ions, is bonded to a negative electrode current collector by a negative electrode bonding agent, and the electrolyte comprises 70#<sup>1</sup>/<sub>4</sub>99 vol% of a phosphoric acid ester compound and 1#<sup>1</sup>/<sub>4</sub>15 vol% of a fluorinated carbonate compound. A secondary battery electrolyte according to the present embodiment includes 70#<sup>1</sup>/<sub>4</sub>99 vol% of a phosphoric acid ester compound and 1#<sup>1</sup>/<sub>4</sub>15 vol% of a fluorinated carbonate compound.

IPC 8 full level

**H01M 10/0569** (2010.01); **H01M 4/13** (2010.01); **H01M 4/134** (2010.01); **H01M 4/48** (2010.01); **H01M 4/62** (2006.01); **H01M 10/052** (2010.01); **H01M 10/0567** (2010.01); **H01M 10/0568** (2010.01); **H01M 10/0585** (2010.01)

CPC (source: EP KR US)

**H01M 4/13** (2013.01 - KR); **H01M 4/131** (2013.01 - US); **H01M 4/62** (2013.01 - KR); **H01M 4/621** (2013.01 - EP US); **H01M 10/052** (2013.01 - EP US); **H01M 10/0567** (2013.01 - EP US); **H01M 10/0569** (2013.01 - EP KR US); **H01M 10/0585** (2013.01 - EP US); **H01M 2004/027** (2013.01 - EP US); **Y02E 60/10** (2013.01 - EP); **Y02P 70/50** (2015.11 - EP); **Y02T 10/70** (2013.01 - US)

Cited by

EP2677591A4; US9012093B2; WO2017036388A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

**EP 2613396 A1 20130710**; **EP 2613396 A4 20160831**; **EP 2613396 B1 20170927**; CN 103081208 A 20130501; CN 103081208 B 20170922; JP 6024457 B2 20161116; JP WO2012029551 A1 20131028; KR 101532847 B1 20150630; KR 20130069784 A 20130626; US 2013157117 A1 20130620; WO 2012029551 A1 20120308

DOCDB simple family (application)

**EP 11821568 A 20110818**; CN 201180042404 A 20110818; JP 2011068681 W 20110818; JP 2012531789 A 20110818; KR 20137008316 A 20110818; US 201113812106 A 20110818